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ABSTRACT

The study was undertaken to develop a practical method of adjusting changes (between pretest and posttest) in self-report scores of self-concept for concurrent changes in defensiveness. Data were drawn from a population of teachers and paraprofessionals in training, or independent subscales of the Tennessee Self-Concept Scale. Changes prior to adjustment were not statistically significant on either the self-concept or the defensiveness scale. However, when changes for each subject on the defensiveness scale were converted to a standard score and applied as a correction factor to the self-concept score for the individual, differences became statistically significant. (Author)

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ADJUSTING SELF-CONCEPT SCORES* for the CONFOUNDING EFFECTS OF DEFENSIVENESS

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A. Objective:

To develop a practical method for adjusting changes (between pretest and posttest) in self-report scores of self-concept for concurrent changes in defensiveness.

B. Theoretical framework:

Several authors (Arneklev, 1970; Coopersmith, 1967; Fitts, 1965; Glazer, 1972; Hewitt and Goldman, 1974; and Wylie, 1957) have discussed the theoretical importance of defensiveness as a variable to be considered in the assessment of self-concept by self-report. They have cautioned users of self-report scores that such scores reflect the test taking "set" held by the subject. Basically they agree that the more humble or open the subject is to criticizing himself the lower his self-report score will be. Conversely, if he is arrogant and unwilling or unable to "level" about some of his shortcomings, his score will be spuriously inflated.

Treatments implemented to enhance levels of self-concept may change levels of defensiveness as well as the self-concept status of subjects. However, when attempts are made to evaluate the success of programs having enhancement of self-concept as an objective, a unitary self-report score is often used as the only criterion to indicate treatment impact. Unless the level of defensiveness can be controlled and/or monitored and used in evaluation, conclusions about treatment impact on self-concept status may be in error.

C. Methods and/or techniques:

The Tennessee Self-Concept Scale (TSCS) was used to assess defensiveness and self-concept by self-report on two scales which are scored from separate items. The openness to "self-criticism" scale was used as the measure of defensiveness. The "total positive" scale was used as the measure of self-concept.

Statistical significance of the change between pretest and posttest scores on the two scales was determined by t-test. Scores on the posttests of self-concept were adjusted to control for changes in defensiveness by the following formula:

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When: $\left[\left(\frac{X_{2i} - X_{1i}}{\frac{X_{\sigma 1} + X_{\sigma 2}}{2}}\right)\left(Y_{\sigma 2}\right)\right] + Y_{2i}$ = Adjusted self-concept score of each individual

X_{1i} = Pretest scores for each individual on the openness to self-criticism scale.

X_{2i} = Posttest scores for each individual on the openness to self-criticism scale.

$X_{\sigma 1}$ = Standard deviation of the pretest scores on the openness to self-criticism scale.

$X_{\sigma 2}$ = Standard deviation of the posttest scores on the openness to self-criticism scale.

$Y_{\sigma 2}$ = Standard deviation of the posttest scores on the self-concept scale.

Y_{2i} = Posttest score for each individual on the self-concept scale.

The formula above is a guide for

(1) dividing the score change (posttest minus pretest) of each subject on the openness to self-criticism scale by the average standard deviation for the treatment group on the pre- and posttest. The quotient from this operation is a type of standard score deviation*, which is

(2) multiplied by the standard deviation of posttest scores on the self-concept scale. When the product of this operation for each subject is

(3) added to the respective posttest self-concept score for each subject, the net effect is to algebraically transfer changes on the openness to self-criticism scale to the self-concept scale.

D. Data Source:

All personnel who received stipends for involvement in an Education Professions Development Act (EPDA) Project at Utah State University were tested prior to and at the conclusion of training on the TSCS. The EPDA Project was designed to train teachers and aides to work with handicapped children in regular classrooms. Training included seminar and practicum experiences during which extensive efforts were made to meet the needs of individuals (children as well as adults in training).

*A standard score deviation must be used because distributions in raw score points are not the same on these two scales. In this study a raw score change of one point on the openness to self-criticism scale is roughly equivalent to a change of ten raw score points on the self-concept scale.

E. Results:

Table I

UNADJUSTED SELF-CONCEPT AND SELF-CRITICISM SCORES FROM TRAINEES
(N = 74)

Scale	Average Pretest Score	Average Posttest Score	Average Gain	t-Value	Level of Significance
Self-Concept	355.0	357.2	2.2	.73	ns[1]
Openness to Self-Criticism (freedom from defensiveness)	33.2	34.1	.9	1.63	ns[1]

[1]ns = not significantly different from zero (a "t" greater than 2.00 is necessary to achieve significance at the .05 level).

From Table I it may be seen that trainees did not attain statistically significant gains on the self-concept or openness to self-criticism scales of the TSCS prior to adjustment. However, it is apparent that average changes on the self-concept scale and openness to self-criticism scale were both in the desired direction.

Table II

ADJUSTED SELF-CONCEPT AND SELF-CRITICISM SCORES FROM TRAINEES
N = 74)

Scale	Average Pretest Score	Average Posttest Score	Average Gain	t-Value	Level of Significance
Self-Concept	355.0	362.9	7.9	2.12	$p<.05$
Openness to Self-Criticism (freedom from defensiveness)	33.2	33.2	.0	0.00	ns[1]

From Table II it may be seen that if changes on the openness to self-criticism scale are transfered to the self-concept scale, the extent of change on that scale becomes statistically significant, and the average change in defensiveness is reduced to zero.

F. Discussion:

The procedure outlined above has been justified on the basis of theoretical argument rather than empirical evidence. Subsequent study should include collection of data on independent criteria in terms of which to evaluate whether the adjusted self-report scores are more valid than the unadjusted scores.

Attempts to establish validity for self-concept measures are generally based on face (content) or factorial types of evidence. Shortcomings in these types of evidence could be especially critical in any attempt to validate the appropriateness of adjustment procedure suggested in this paper. These shortcomings have most frequently been considered by authors who have carefully studied self-report methods of assessment.

The self-report method is the most commonly used technique upon which to make inferences about the status of self-concepts in treatment groups. When using this method, the examiner (E) usually assumes that self-report is a valid reflection of a subject's (S's) self-concept. Unfortunately, this assumption should often not be made. Wylie (1961, p. 24) concluded from her comprehensive review of research on self-concept that:

> We would like to assume that S's self-report responses are determined by his phenomenal field. However, we know that it would be naive to take this for granted, since it is obvious that such responses may also be influenced by (a) S's intent to select what he wishes to reveal to the E; (b) S's intent to say that he has attitudes or perceptions which he does not have; (c) S's response habits, particularly those involving introspection and use of language; (and) (d) a host of situational and methodological factors which may not only induce variations in (a), (b), and (c), but may exert other more superficial influences on the responses obtained.

In a review of Wylie's book, Combs (1962, p. 53) stated:

> Our literature is awash with studies, ostensibly on self-concept, but which turn out on closer analysis to be studies of self-report. Only a few of the studies reviewed in this volume can properly be described as researches on the self-concept despite the fact that they are labeled so. Self theorists have defined self-concept as what an individual believes he is. The self-report on the other hand is what the subject is ready, willing, able or can be tricked to say he is. Clearly these concepts are by no means the same. Yet, amazingly, experiment after experiment reported in this book is reported as though it were.

Later, Combs et al.(1963, p. 499) emphasized that position when they stated:

> Self-report studies are valuable in their own right. We need such information. But when such experiments masquerade as self-concept studies the damage they can do is great. Valid theory may be disproven, for example, while false assumptions are given the support of "scientific proof."

These statements point out the importance of carefully defining what is meant by "self-concept" in any study. By including related factors, such as defensiveness, a more adequate conception can be established. With that conception, the possibility for demonstrable validity will be increased.

G. Educational or scientific importance of the study:

The results of this study suggest that more than one score should be gathered in the assessment of self-concept by self-report. If self-concept is operationally defined to include concern for fluctuations in levels of defensiveness, adjustment for those fluctuations may change outcomes to a statistically significant extent.

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